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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/970,185	10/03/2001	Thomas Laursen	SFI 658C1	2268

27782 7590 07/31/2003

SPEEDFAM-IPEC CORPORATION  
305 NORTH 54TH STREET  
CHANDLER, AZ 85226

EXAMINER

ROSE, ROBERT A

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 07/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/970,185

Applicant(s)  
Laursen et al

Examiner  
Robert Rose

Art Unit  
3723



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10-3-01, 1-21-03.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25, 27, and 28 is/are rejected.
- 7) ☒ Claim(s) 26 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2,3 6) ☐ Other:

Art Unit: 3723

### DETAILED ACTION

1. Receipt is acknowledged of Applicant's prior Art Statements, filed October 3, 2001, and January 21, 2003, respectively.

2. Claims 1-28 are presented for examination.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 11-12, 14, and 16-24 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sandhu et al(US 5700180). Sandhu et al disclose an apparatus for planarizing a front surface of a wafer comprising all of the subject matter set forth in applicant's claims above. Note the use of an interferometer(column 7, lines 35-45), which delivers reflected light signals back to a controller to adjust the polishing pressure on the backside of the wafer by way of plural individually controllable fluid-pressure piston actuators(column 6, lines 41-56). With regard to claim 14, note temperature probe embodiment of figure 10.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3723

6. Claims 25, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al('180). It is known in the polishing art to employ an initial polishing run to determine various parameters with which to make subsequent polishing runs, in order to avoid too many rejected workpieces. To employ the method of Sandhu et al on successive wafers by utilizing data from a previous run to adjust the carrier plenum pressures for a subsequent run, in order to optimize the polishing parameters, would have been at most an obvious matter of design choice to those of ordinary skill in the art.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al('180) in view of Brievogel et al(US 5554064). To substitute an orbital motion generator for the rotational motion generator disclosed in Sandhu et al in order to provide a more uniform polishing pad movement across the surface of the wafer(column 2, line 40 of Brievogel et al) would have been obvious in view of Brievogel et al.

8. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al('180) in view of Perlov et al(US 5964653). To utilize the pressure plenum/membrane arrangement disclosed in Perlov et al to alternatively deliver local pressure to a desired region of the wafer in the apparatus of Sandhu et al would have been obvious in view of Perlov et al.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al in view of Perlov et al and further in view of Brievogel et al. To further substitute an orbital motion generator for the rotational motion generator disclosed in Sandhu et al in order to provide a more

Art Unit: 3723

uniform polishing pad movement across the surface of the wafer(column 2, line 40 of Brievogel et al) would have been obvious in view of Brievogel et al.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al('180) in view of Swedek et al(6190234). To use a second light source and detector for better endpoint precision would have been obvious in view of Swedek et al.

11. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al('180) in view of Li et al. Li et al discloses the conventional use of an eddy current sensor for monitoring the polishing state of the workpiece. To substitute such a sensor for the optical system of Sandhu et al to alternatively monitor the polishing state of the wafer would have been obvious in view of Li et al.

12. Claim 26 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Any inquiry concerning this communication should be directed to Robert Rose at telephone number (703) 308-1360.

rr

July 26, 2003.

**ROBERT A. ROSE**  
**PRIMARY EXAMINER**  
**ART UNIT 323**

